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Calculating the times of the minima by means of these elements, and comparing the calculated with the observed results, we have

	C − O.		C − O.
	days.		days.
1.	+ 1·73	6.	+ 0·01
2.	+ 0·61	7.	+ 0·77
3.	− 2·63	8.	+ 2·65
4.	+ 0·25	9.	− 1·47
5.	− 1·87		

These differences show that the variations in the length of the period of R *Sagittæ* are confined within moderate limits, and that this star may be ranked in the class of moderately regular variables.

Using the mean period of 70·88 days in combining all the observations made in the different phases of the star's changes, and projecting the mean results in the usual way, I find, from the curve thus obtained, that the principal maximum, the secondary minimum, and the secondary maximum, follow the principal minimum in 17, 35, and 44 days respectively. It appears, therefore, that the interval between the principal and the secondary minimum is almost exactly one-half of the whole period, precisely as in the case of the well-known double-period variable, β *Lyræ*.

The mean magnitude at the principal minimum = 10·00
,, maximum = 8·45
secondary minimum = 8·95
,, maximum = 8·60

The lowest minimum yet observed is 10·3, and the highest maximum 8·3; the greatest range of variation is, therefore, 2·0 magnitudes.

The mean place of the star for 1860·0 is

R.A. 20^{h} 7^{m} 40^{s}; Decl. 16° 18′·3 N.

Manchester, Dec. 9, 1861.

On the Variable Star R *Vulpeculæ.* By G. Knott, Esq.

R *Vulpeculæ*. Piazzi xx. 457. My earliest observations of this variable were made on the 7th, 9th, and 10th of September, when it shone as a star of the 9·3 magnitude. Bad weather and absence from home prevented another observation till the 26th of the month, when, to my surprise, I found it considerably fainter, and of the 11·7 magnitude. Since that date I have

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kept the star pretty constantly in view; and the discussion and projection of my observations give October 27th as the epoch of *minimum*, just two days prior to the date of probable *maximum*, as given in Mr. Pogson's ephemeris. The magnitude at minimum appears to have been about 13·6.

As this is the first communication I have had the honour of submitting to the Astronomical Society, it will probably be deemed desirable that I should briefly describe my instrument and method of observing variable stars.

My Observatory is furnished with a 9-foot equatoreal, the object-glass by Messrs. Alvan Clark and Sons, and of 7⅓ inches aperture. It was formerly in the possession of the Rev. W. R. Dawes, and was very favourably spoken of by him—a sufficient guarantee of its quality. I usually employ an excellent positive eyepiece, constructed for me by Mr. Dollond; it has a large field, and gives a magnifying power of 60, as determined by measuring the emergent pencil. Higher magnifiers are occasionally employed.

In observing and discussing observations of variable stars, I have adopted Mr. Pogson's methods, as also his magnitude-scale (Argelander's extended). I am largely indebted to him, not only for his interesting and important papers in the *Astronomische Nachrichten* and the *Monthly Notices*, but also for several valuable hints in one or two personal communications with which he has favoured me. In all probability I am not the only amateur who is eagerly expecting his promised *Variable Star Atlas*.

Observations of Comet II. 1861, *taken with the Equatoreal of the Liverpool Observatory.* By J. Hartnup, Esq.

	G.M.T.	Comet's R.A.	Log. $\frac{p}{P}$	Comet's N.P.D.	Log. $\frac{q}{P}$	Stars of Comp. B.A.C.
1861.	h m s	h m s		° ′ ″		
July 3	10 44 32·7	9 42 13·06	+8·950	24 5 59·1	−9·7407	3496
3	11 21 16·0	9 44 3·75	+8·910	24 2 49·5	−9·7955	,,
4	10 54 4·6	10 50 43·43	+8·999	23 5 31·0	−9·6858	3647
4	11 25 20·0	10 52 4·32	+8·985	23 5 33·0	−9·7790	,,
4	11 56 34·8	10 53 25·01	+8·962	23 5 38·1	−9·8644	,,
5	11 8 34·1	11 46 10·28	+8·996	23 40 24·6	−9·5207	3968
5	11 29 11·1	11 46 50·71	+8·993	23 41 20·6	−9·5831	,,
5	11 49 48·5	11 47 31·40	+8·987	23 42 20·9	−9·6337	,,
6	10 3 56·4	12 25 23·85	+8·938	24 54 1·5	−9·0806	4276
6	10 24 23·6	12 25 53·65	+8·953	24 55 15·0	−9·2173	,,
6	10 44 50·5	12 26 23·61	+8·963	24 56 30·5	−9·3213	,,
7	10 24 25·2	12 55 52·79	+8·909	26 26 4·5	−9·1219	4300
7	10 54 53·7	12 56 24·84	+8·931	26 28 3·7	−9·2909	4276

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